

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A multi-domain liquid crystal display device comprising:
first and second substrates facing each other;
a liquid crystal layer between said first and second substrates;
a plurality of gate bus lines arranged in a first direction on said first substrate and a plurality of data bus lines arranged in a second direction on said first substrate to define a pixel region;
a pixel electrode in said pixel region;
a dielectric frame in a region other than a region where said pixel electrode is formed, said dielectric frame distorting electric field applied to said liquid crystal layer;
a common electrode on said second substrate; and
an alignment layer on at least one substrate between said first and second substrates.
2. (Currently Amended) The multi-domain liquid crystal display device according to claim 1, further comprising:
a gate insulator over said whole first substrate;
a passivation layer on said gate insulator over said whole first substrate;
a light shielding layer on said second substrate;
a color filter layer on said light shielding layer; and
an over coat layer on said color filter layer.

3. (Original) The multi-domain liquid crystal display device according to claim 1, wherein said dielectric frame is patterned.

4. (Original) The multi-domain liquid crystal display device according to claim 1, wherein said dielectric frame maintains uniformly gap between said first and second substrates.

5. (Original) The multi-domain liquid crystal display device according to claim 1, wherein dielectric constant of said dielectric frame is different than that of said liquid crystal layer.

6. (Original) The multi-domain liquid crystal display device according to claim 1, wherein said dielectric frame shields light leakage from a region other than said pixel region.

7. (Original) The multi-domain liquid crystal display device according to claim 1, wherein said dielectric frame includes photosensitive materials.

8. (Original) The multi-domain liquid crystal display device according to claim 1, wherein said dielectric frame includes a material selected from the group consisting of BCB (BenzoCycloButene) and photoacrylate.

9. (Original) The multi-domain liquid crystal display device according to claim 1, wherein said dielectric frame includes mixture of polyimide and carbon black.

10. (Original) The multi-domain liquid crystal display device according to claim 1, wherein said dielectric frame includes mixture of acrylic resin and carbon black.

11. (Original) The multi-domain liquid crystal display device according to claim 1, wherein said pixel electrode has an electric field inducing window inside of itself.

12. (Currently Amended) A multi-domain liquid crystal display device, comprising:
first and second substrates facing each other;
a liquid crystal layer between said first and second substrates;
a plurality of gate bus lines arranged in a first direction on said first substrate and a plurality of data bus lines arranged in a second direction on said first substrate to define a pixel region;
a pixel electrode in said pixel region;
a dielectric frame in a region other than a region where said pixel electrode is formed, said dielectric frame distorting electric field applied to said liquid crystal layer;
a common electrode on said second substrate;
an alignment layer on at least one substrate between said first and second substrates[,];
a gate insulator over said whole first substrate;
a passivation layer on said gate insulator over said whole first substrate, the passivation layer having an electric field including window inside;
a light shielding layer on said second substrate;
a color filter layer on said light shielding layer; and
an over coat layer on said color filter layer.

13. (Currently Amended) A multi-domain liquid crystal display device, comprising:
first and second substrates facing each other;
a liquid crystal layer between said first and second substrates;

a plurality of gate bus lines arranged in a first direction on said first substrate and a plurality of data bus lines arranged in a second direction on said first substrate to define a pixel region;

a pixel electrode in said pixel region;

a dielectric frame in a region other than a region where said pixel electrode is formed, said dielectric frame distorting electric field applied to said liquid crystal layer;

a common electrode on said second substrate;

an alignment layer on at least one substrate between said first and second substrates[.];

a gate insulator over said whole first substrate, the gate insulator having an electric field including window inside;

a passivation layer on said gate insulator over said whole first substrate;

a light shielding layer on said second substrate;

a color filter layer on said light shielding layer; and

an over coat layer on said color filter layer.

14. (Original) The multi-domain liquid crystal display device according to claim 1, wherein said common electrode has an electric field inducing window inside of itself.

15. (Currently Amended) A multi-domain liquid crystal display device, comprising:

first and second substrates facing each other;

a liquid crystal layer between said first and second substrates;

a plurality of gate bus lines arranged in a first direction on said first substrate and a plurality of data bus lines arranged in a second direction on said first substrate to define a pixel region;

a pixel electrode in said pixel region;

a dielectric frame in a region other than a region where said pixel electrode is formed,
said dielectric frame distorting electric field applied to said liquid crystal layer;
a common electrode on said second substrate;
an alignment layer on at least one substrate between said first and second substrates[,];
a gate insulator over said whole first substrate;
a passivation layer on said gate insulator over said whole first substrate;
a light shielding layer on said second substrate;
a color filter layer on said light shielding layer, the color filter layer having an electric
field including window inside; and
an over coat layer on said color filter layer.

16. (Currently Amended) A multi-domain liquid crystal display device, comprising:

first and second substrates facing each other;
a liquid crystal layer between said first and second substrates;
a plurality of gate bus lines arranged in a first direction on said first substrate and a
plurality of data bus lines arranged in a second direction on said first substrate to define a pixel
region;

a pixel electrode in said pixel region;
a dielectric frame in a region other than a region where said pixel electrode is formed,
said dielectric frame distorting electric field applied to said liquid crystal layer;
a common electrode on said second substrate;
an alignment layer on at least one substrate between said first and second substrates[,];
a gate insulator over said whole first substrate;

a passivation layer on said gate insulator over said whole first substrate;
a light shielding layer on said second substrate;
a color filter layer on said light shielding layer; and
an over coat layer on said color filter layer, the over coat layer having an electric field including window inside.

17. (Original) The multi-domain liquid crystal display device according to claim 2, wherein said passivation layer includes a material selected from the group consisting of BCB (BenzoCycloButene), acrylic resin, and polyimide compound.

18. (Original) The multi-domain liquid crystal display device according to claim 2, wherein said passivation layer includes a material selected from the group consisting of silicon nitride and silicon oxide.

19. (Original) The multi-domain liquid crystal display device according to claim 1, wherein said pixel electrode includes a material selected from the group consisting of ITO (indium tin oxide), aluminum, and chromium.

20. (Original) The multi-domain liquid crystal display device according to claim 1, wherein said common electrode includes ITO (indium tin oxide).

21. (Original) The multi-domain liquid crystal display device according to claim 1, wherein said pixel region is divided into at least two portions, liquid crystal molecules in said liquid crystal layer in each portion being driven differently from each other.

22. (Original) The multi-domain liquid crystal display device according to claim 1, wherein said alignment layer is divided into at least two portions, liquid crystal molecules in said liquid crystal layer in each portion being aligned differently from each other.

23. (Original) The multi-domain liquid crystal display device according to claim 22, wherein at least one portion of said alignment layer is alignment-treated.

24. (Original) The multi-domain liquid crystal display device according to claim 22, wherein all portions of said alignment layer are non-alignment-treated.

25. (Original) The multi-domain liquid crystal display device according to claim 1, wherein said liquid crystal layer includes liquid crystal molecules having positive dielectric anisotropy.

26. (Original) The multi-domain liquid crystal display device according to claim 1, wherein said liquid crystal layer includes liquid crystal molecules having negative dielectric anisotropy.

27. (Original) The multi-domain liquid crystal display device according to claim 1, further comprising:

a negative uniaxial film on at least one substrate.

28. (Original) The multi-domain liquid crystal display device according to claim 1, further comprising:

a negative biaxial film on at least one substrate.

29. (Original) The multi-domain liquid crystal display device according to claim 1, wherein said liquid crystal layer includes chiral dopants.

30. (Currently Amended) A multi-domain liquid crystal display device comprising:
first and second substrates facing each other;
a liquid crystal layer between said first and second substrates;

a plurality of gate bus lines arranged in a first direction on said first substrate and a plurality of data bus lines arranged in a second direction on said first substrate to define a pixel region;

a pixel electrode in said pixel region;

a dielectric frame surrounding said pixel region, said dielectric frame distorting electric field applied to said liquid crystal layer and said dielectric frame in a region other than a region where said pixel electrode is formed;

a common electrode on said second substrate; and

an alignment layer on at least one substrate between said first and second substrates.

31. (Currently Amended) The multi-domain liquid crystal display device according to claim 30, further comprising:

a gate insulator over said whole first substrate;

a passivation layer on said gate insulator over said whole first substrate;

a light shielding layer on said second substrate;

a color filter layer on said light shielding layer; and

an over coat layer on said color filter layer.

32. (Original) The multi-domain liquid crystal display device according to claim 30, wherein said dielectric frame is patterned.

33. (Original) The multi-domain liquid crystal display device according to claim 30, wherein dielectric constant of said dielectric frame is different than that of said liquid crystal layer.

34. (Original) The multi-domain liquid crystal display device according to claim 30, wherein said dielectric frame shields light leakage from a region other than said pixel region.

35. (Original) The multi-domain liquid crystal display device according to claim 30, wherein said dielectric frame includes photosensitive materials.

36. (Original) The multi-domain liquid crystal display device according to claim 30, wherein said dielectric frame includes a material selected from the group consisting of BCB (BenzoCycloButene) and photoacrylate.

37. (Original) The multi-domain liquid crystal display device according to claim 30, wherein said dielectric frame includes mixture of polyimide and carbon black.

38. (Original) The multi-domain liquid crystal display device according to claim 30, wherein said dielectric frame includes mixture of acrylic resin and carbon black.